

Docket No.: P-0156

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PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES**

In Application of

Confirmation No.: 2257

Sehjoon DOKKO

Group Art Unit: 2861

Serial No.: 09/738,309

Examiner: Khawar Iqbal

Filed: 12/18/2000

Customer No.: 34610

For: CHANNEL ALLOCATION METHOD RADIO DATA CALLS HAVING
DIFFERENT BANDWIDTH

TRANSMITTAL OF APPEAL BRIEF

U.S. Patent and Trademark Office
Customer Window, Mail Stop Appeal Brief-Patents
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:

Submitted herewith is Appellant's Appeal Brief in support of the Notice of Appeal filed December 27, 2005. Enclosed is Check No. 16999 for the Appeal Brief fee of \$500.00.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP



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Date: February 24, 2006

Docket No.: P-0156

PATENT



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APPEAL BRIEF

U.S. Patent and Trademark Office
Customer Window, Mail Stop Appeal Brief-Patents
Randolph Building
401 Dulany Street
Alexandria, Virginia 223134

Sir:

This appeal is taken from the final rejection of claims 1-4, 6-10, 14 and 26-31 as set forth in the Office Action of July 27, 2005 (hereafter the Office Action). In accordance with 37 C.F.R. §41.37, applicant addresses the following items.

REAL PARTY IN INTEREST

The party in interest is the assignee, LG Electronics Inc. The assignment document is recorded at Reel 011382 and Frame 0115.

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RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

STATUS OF THE CLAIMS

Claims 1-4, 6-10, 14 and 26-31 are pending in this application. All claims are rejected. All claims are being appealed.

STATUS OF AMENDMENTS

An Amendment After Final Rejection was filed on November 25, 2005. This Amendment has not been entered. See the Advisory Action dated December 16, 2005. A copy of the appealed claims 1-4, 6-10, 14 and 26-31 is provided in the attached Appendix.

SUMMARY OF THE CLAIMED SUBJECT MATTER

As stated in 37 C.F.R §41.37(c) (v), applicant is providing the following explanation of each of the independent claims 1, 7, 8 and 14 involved in this appeal. This explanation refers to the specification and drawings. The following is merely a summary and is not intended to be a discussion of the full and entire scope of the claims.

Independent Claim 1

Independent claim 1 recites a method for allocating channels for radio data calls. The method includes receiving a data call connection request. For example, page 8, line 14-page 9,

line 6 describes receiving a data call connection request. See also FIG. 5, step S41. The method may include determining a traffic attribute of the data call. For example, page 8, line 14-page 9, line 2 describes determining whether the call is a voice call or a data call. See also page 8, lines 6-8. The method may also include determining an occupied bandwidth of each of a plurality of channels of a transmission link occupied by other connected calls. For example, page 10, lines 1-4 describes computing a bandwidth occupied by a data call currently in a connected state for each H_0 channel. See also page 11, lines 8-12; and FIG. 5, steps S45 and S52.

The method also includes dynamically allocating the data call among the plurality of channels based on the traffic attribute and the occupied bandwidth. For example, page 10, line 5-page 11, line 17 describes allocating a H_0 channel. See also page 8, lines 10-12; and FIG. 5, steps S47, S48, S54 and S55.

The method may further include a mobile switching system subtracting an occupied channel bandwidth from a maximum allowable channel bandwidth to determine whether there is a minimum available bandwidth in each channel. For example, page 10, lines 8-11 describes that a frame relay converting unit subtracts an occupied bandwidth from a maximum allowable bandwidth to compute an available bandwidth. See also FIG. 5, step S45. The method also includes the mobile switching system allocates the channel having the least occupied bandwidth when no channel has the minimum available bandwidth and allocates the channel having the least available bandwidth when a channel exists having the minimum available bandwidth. For example, page 10, line 12-page 11, line 7 describes allocation with respect to FIG. 5, steps S47 and S48.

Independent Claim 7

Independent claim 7 recites a method for allocating channels for radio data calls. The method may include receiving a data call connection request. For example, page 8, line 14-page 9, line 6 describes receiving a data call connection request. The method may include determining a traffic attribute of the data call. For example, page 8, line 14-page 9, line 2 describes determining whether the call is a voice call or a data call. See also page 8, lines 6-8. The method may also include determining an occupied bandwidth of each of a plurality of channels of a transmission link occupied by other connected calls. For example, page 10, lines 1-4 describes computing a bandwidth occupied by a data call currently in a connected state for each H_0 channel. See also page 11, lines 8-12; and FIG. 5, steps S45 and S52.

The method also includes dynamically allocating the data call among the plurality of channels based on the traffic attribute and the occupied bandwidth. For example, page 10, line 5-page 11, line 17 describes allocating a H_0 channel. See also page 8, lines 10-12; and FIG. 5, steps S47, S48, S54 and S55.

The method may also include a mobile switching system allocates a channel having the largest available bandwidth when a requested bandwidth of the data call is greater than a prescribed bandwidth and the channel having an available bandwidth exists. For example, see page 11, lines 15-17; and FIG. 5, step S54.

Still further, the method may also include the mobile switching system allocates a channel having the least occupied bandwidth when the requested bandwidth of the data call is greater

than the prescribed bandwidth and the channel having the available bandwidth does not exist. For example, see page 11, lines 13-15; and FIG. 5, step S55.

Independent Claim 8

Independent claim 8 recites a method for allocating channels for radio data calls. The method may include receiving a data call connection request. For example, page 8, line 14-page 9, line 6 describes receiving a data call connection request. See also FIG. 5, step S41. The method may include determining a traffic attribute of the data call. For example, page 8, line 14-page 9, line 2 describes determining whether the call is a voice call or a data call. See also page 8, lines 6-8. The method may also include determining an occupied bandwidth of each of a plurality of channels of a transmission link occupied by other connected calls. For example, page 10, lines 1-4 describes computing a bandwidth occupied by a data call currently in a connected state for each H_0 channel. See also page 11, lines 8-12; and FIG. 5, steps S45 and S52.

The method also includes dynamically allocating the data call among the plurality of channels based on the traffic attribute and the occupied bandwidth. For example, page 10, line 5-page 11, line 17 describes allocating a H_0 channel. See also page 8, lines 10-12; and FIG. 5, steps S47, S48, S54 and S55.

The method may further include that a mobile switching system allocates a channel having the least available bandwidth when a requested bandwidth of the data call is smaller than a prescribed reference bandwidth and the channel having an available bandwidth exists. The method may further include that the mobile switching system allocates a channel having the least

occupied bandwidth when the requested bandwidth of the data call is smaller than the prescribed reference bandwidth and the channel having the available bandwidth does not exist. For example, page 10, line 12-page 11, line 7 describes allocation with respect to FIG. 5, steps S47 and S48.

Independent Claim 14

Independent claim 14 recites a channel allocation method for radio data calls. The method may include receiving a data call connection request. For example, page 8, line 14-page 9, line 6 describes receiving a data call connection request. The method may also include allocating an available time slot and an E1 link. See page 8, lines 10-12 and page 9, lines 3-6. The method may also include determining a requested bandwidth based on a service option of a received data call. For example, see page 9, lines 3-16; and FIG. 5, steps S42 and S43. The method may also include defining a weight value of the data call in accordance with the requested bandwidth. For example, page 9, lines 7-13 describes that weighted values of each requested bandwidth are allocated and managed according to the rate of the bandwidth.

The method may also include dynamically allocating an H_0 channel on the E1 link based on a number of connected data calls occupying each of a plurality of H_0 channels and the weight value of each connected data call. For example, page 9, lines 7-13 describes dividing the requested bandwidth depending on the service option, and that weighted values of each requested bandwidth are allocated and managed according to the rate of the bandwidth. See also

page 10, line 5-page 11, line 17 describing allocating a H_0 channel. Additionally, see page 8, lines 10-12; and FIG. 5, steps S47, S48, S54 and S55.

The method may also include determining whether the requested bandwidth is greater than a reference bandwidth. For example, see page 9, lines 17-19 and FIG. 5, step S44. The method may also include computing a bandwidth occupied by the connected data calls. For example, see page 9, line 20-page 10, line 2; and FIG. 5, steps S45 and S52. The method may additionally include subtracting the occupied bandwidth from a maximum allowable bandwidth for each H_0 channel, to determine whether any available bandwidth exists in each H_0 channel. For example, see page 11, lines 9-12; and FIG. 5, step S53. The method may further include allocating an H_0 channel having the least occupied bandwidth if no H_0 channel exists. For example, see page 11, lines 8-15; and FIG. 5, step S55. The method includes allocating a H_0 channel having the largest available bandwidth if the requested bandwidth is greater than the reference bandwidth and a H_0 channel having available bandwidth exists. For example, see page 11, lines 8-17; and FIG. 5, step S54.

The method further includes allocating a H_0 channel having the least available bandwidth if the requested bandwidth is smaller than the reference bandwidth and a H_0 channel having available bandwidth exists. For example, see page 10, lines 16-17; and FIG. 5, step S47.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-4, 6-10, 14 and 26-31 stand rejected under 35 U.S.C. §103(a) over U.S. Patent 6,483,820 to Davidson in view of U.S. Patent 6,590,865 to Ibaraki et al. (hereafter Ibaraki).

Claims 10, 14, 26 and 37 stand rejected over Davidson, Ibaraki and further in view of U.S. Publication 20020114301 to Yee et al. (hereafter Yee).

Still further, claim 4 stands rejected over Davidson, Ibaraki and further in view of U.S. Patent 5,960,039 to Martin et al. (hereafter Martin).

As discussed below in the section entitled "Argument" applicant has separately made arguments for the claims. Applicant believes that each of the claims stands and falls separately from one another.

ARGUMENT

The present application contains four independent claims, namely independent claims 1, 7, 8 and 14. These claims contain different features as may be evidenced by the specifically claimed features and as may be pointed out below. For ease of illustration and discussion, similar types of claims (or claim features) may be discussed with respect to each other. This is not an admission that the claims are the same or that they stand or fall together. Rather, this is an attempt to narrow the number of issues and to limit the number of arguments. While arguments may be similar for different claims, it should be understood that differently claimed features are expressly used.

Independent Claim 1

Independent claim 1 recites that a mobile switching system subtracts an occupied channel bandwidth from a maximum allowable channel bandwidth to determine whether there is a minimum available bandwidth in each channel, and allocates the channel having the least

occupied bandwidth when no channel has the minimum available bandwidth and allocates the channel having the least available bandwidth when a channel exists having the minimum available bandwidth. As one non-limiting example, see FIG. 5, steps S47 and S48.

In addressing independent claim 1, the Office Action (bottom of page 2) states that Davidson does not specifically teach wherein a mobile switching system subtracts an occupied channel bandwidth from a maximum allowable channel bandwidth to determine whether there is a minimum available bandwidth in each channel, and allocates the channel having the least occupied bandwidth when no channel has the minimum available bandwidth.

The Office Action (on page 3, lines 1-6) then asserts that Ibaraki discloses allocating the channel having the least occupied bandwidth when no channel has the minimum available bandwidth. The Office Action cites Ibaraki's col. 11, lines 21-56 and col. 12, lines 9-61. However, these sections of Ibaraki do not relate to allocation of a channel when no channel has a minimum available bandwidth. For example, Ibaraki teaches when a sum of minimum bandwidths is larger than a total amount, it is decided NO. See col. 12, lines 15-16; and FIG. 2. When it is decided NO in step S13, allocation is impossible. See Ibaraki's col. 12, lines 60-64.

When allocation is impossible, Ibaraki discloses reviewing priority of the resource allocation request (S31). An allocated resource may be released and/or a NACK may be transmitted back to the resource allocation means 21 and wait for another request. See Ibaraki's col. 12, line 60-col. 13, line 3. These features do not suggest that the mobile switching system allocates the channel having the least occupied bandwidth when no channel has the minimum available bandwidth.

Applicant also specifically notes that the discussion on pages 7-9 of the Office Action does not address the claimed features relating to allocating a channel having a least occupied bandwidth when no channel has the minimum available bandwidth.

For at least the reasons set forth above, Ibaraki does not teach allocating a channel when no channel has a minimum available bandwidth. Accordingly, Davidson and Ibaraki, either alone or in combination, do not teach or suggest the mobile switching system allocates the channel having the least occupied bandwidth if no channel has a minimum available bandwidth, as recited in independent claim 1. The Office Action does not provide a prior art reference teaching these specifically claimed features. Thus, the Office Action fails to make a *prima facie* case of obviousness. For at least the reasons set forth above, independent claim 1 defines patentable subject matter.

Dependent Claim 2

Dependent claim 2 depends from claim 1 and therefore defines patentable subject matter at least for this reason. However, dependent claim 2 contains additional features such that dependent claim 2 does not stand or fall together with independent claim 1. For example, dependent claim 2 recites that a bandwidth of the data call is determined based on the traffic attribute and the bandwidth occupied by the other connected data calls is determined based on a number of other data calls and prescribed weight values of each of the other data calls. The Office Action broadly cites Davidson's col. 4, line 12-col. 5, line 45 and col. 6, lines 12-65 for these features of claim 2. However, these sections do not suggest a determination based on a number of other data calls and prescribed weight values of each of the other data calls. Davidson

and Ibaraki do not teach or suggest these features. Thus, dependent claim 2 defines patentable subject matter at least for these additional reasons.

Dependent Claim 3

Dependent claim 3 depends from claims 1 and 2 and therefore defines patentable subject matter at least for this reason. However, dependent claim 3 contains additional features such that dependent claim 3 does not stand or fall together with independent claim 1 and/or dependent claim 2. For example, dependent claim 3 recites that the weight value is allocated in a unit form according to a rate of the bandwidth. The Office Action broadly cites Davidson's col. 4, line 12-col. 5, line 45 and col. 6, lines 12-65 for these features of claim 3. However, these sections do not suggest a weight value. Additionally, these sections do not suggest a weight value is allocated in a unit form according to a rate of the bandwidth. Davidson and Ibaraki do not teach or suggest these features. Thus, dependent claim 3 defines patentable subject matter at least for these additional reasons.

Dependent Claim 4

Dependent claim 4 depends from claims 1, 2 and 3 and therefore defines patentable subject matter at least for this reason. However, dependent claim 4 contains additional features such that dependent claim 4 does not stand or fall together with independent claim 1 and/or dependent claim 2 and/or dependent claim 3. For example, dependent claim 4 recites that a bandwidth of 13Kbps-based low speed data call comprises 1 unit, a bandwidth of 64Kbps-based middle data call comprises 5 units, and a bandwidth of 128Kbps-based high speed data comprises 10 units. The Office Action states that Davidson does not teach or suggest these

features. The Office Action (on page 7) then states that Martin (at col. 7, lines 7-26) teaches that 128 Kbps-based high speed data comprise 10 units. Applicants respectfully disagree as Martin does not suggest 10 units. Additionally, the other applied references do not suggest the claimed 1 unit, 5 units and 10 units. Thus, dependent claim 4 defines patentable subject matter at least for these additional reasons.

Dependent Claim 6

Dependent claim 6 depends from claim 1 and therefore defines patentable subject matter at least for this reason. However, dependent claim 6 contains additional features such that dependent claim 6 does not stand or fall together with independent claim 1. For example, dependent claim 6 recites that the maximum allowable bandwidth is 30 units. The Office Action cites Davidson's col. 4, line 12-col. 5, line 45 and col. 6, lines 12-65 for these features of claim 6. However, these sections do not relate to 30 units. Further, the other applied references do not suggest the maximum allowable bandwidth being 30 units. Thus, dependent claim 6 defines patentable subject matter at least for these additional reasons.

Dependent Claim 9

Dependent claim 9 depends from claim 1 and therefore defines patentable subject matter at least for this reason. However, dependent claim 9 contains additional features such that dependent claim 9 does not stand or fall together with independent claim 1. For example, dependent claim 9 recites that the traffic attribute is determined based on a service option. The Office Action appears to cite Basu for these features. Applicants believe that the Office Action contains a typographical error since the Office Action appears to cite Davidson's col. 4, line 12-

col. 5, line 45, and col. 6, lines 12-65. However, there is not suggestion in these cited sections of Davidson for a traffic attribute being determined based on a service option. None of the applied references teach or suggest this feature. Thus, dependent claim 9 defines patentable subject matter at least for these additional reasons.

Dependent Claim 10

Dependent claim 10 depends from claim 1 and therefore defines patentable subject matter at least for this reason. However, dependent claim 10 contains additional features such that dependent claim 10 does not stand or fall together with independent claim 1. For example, dependent claim 10 recites that the channels are H_0 channels and the transmission link is an E1 link. The Office Action (on pages 6-7) states that Davidson and Ibaraki do not teach this feature. The Office Action then relies on Yee as disclosing an E1 link. However, there is no suggestion of how Yee's disclosure of an E1 link may be combined with Davidson and Ibaraki in order to obtain all the features of dependent claim 10 as well as independent claim 1. Thus, dependent claim 10 defines patentable subject matter at least for these additional reasons.

Independent Claim 7

Independent claim 7 recites that a mobile switching system allocates a channel having the largest available bandwidth when a requested bandwidth of the data call is greater than a prescribed bandwidth and the channel having an available bandwidth exists and the mobile switching system allocates a channel having the least occupied bandwidth when the requested bandwidth of the data call is greater than the prescribed bandwidth and the channel having the available bandwidth does not exist. As one non-limiting example, see FIG. 5, steps S54 and S55.

The Office Action appears to assert (on page 4, lines 8-11) that Davidson discloses that the mobile switching system allocates a channel having the least available bandwidth if a requested bandwidth of the data call is greater than a prescribed bandwidth and the channel having the available bandwidth exists. The Office Action cites Davidson's col. 4, lines 12-60, col. 5, lines 1-45 and col. 6, lines 12-65. However, the Office Action does not address the features of independent claim 7 that are not taught or suggested by Davidson. Applicants respectfully request clarification of this rejection.

The Office Action appears to reference claim 1 (on page 4, lines 11 of the Office Action). Therefore, applicant assumes for the purposes of this Appeal Brief that the Office Action is asserting that Ibaraki discloses allocating a channel having the least occupied bandwidth when the requested bandwidth of the data call is greater than the prescribed bandwidth and the channel having the available bandwidth does not exist, as recited in independent claim 7. However, in a similar manner as set forth above, Ibaraki does not teach or suggest allocating a channel when the available bandwidth does not exist. Additionally, Ibaraki and Davidson do not teach or suggest that the mobile switching system allocates a channel having the least occupied bandwidth when the requested bandwidth of the data call is greater than the prescribed bandwidth and the channel having the available bandwidth does not exist. The Office Action does not provide a prior art reference teaching these specifically claimed features. Thus, the Office Action fails to make a *prima facie* case of obviousness. For at least the reasons set forth above, independent claim 7 defines patentable subject matter.

Dependent Claim 28

Dependent claim 28 depends from claim 7 and therefore defines patentable subject matter at least for this reason. However, dependent claim 28 contains additional features such that dependent claim 28 does not stand or fall together with independent claim 7. For example, dependent claim 28 recites that the mobile switching system allocates a channel having the least occupied bandwidth if the requested bandwidth is smaller than the reference bandwidth and a channel having available bandwidth does not exist. The Office Action (on pages 3-4) appears to rely on Davidson's col. 4, lines 12-60, col. 5, lines 1-45 and col. 6, lines 12-65 for these features. However, the cited sections of Davidson do not relate to allocating if a requested bandwidth is smaller than a reference bandwidth. The other applied references do not teach or suggest these features. Thus, dependent claim 28 defines patentable subject matter at least for these additional reasons.

Dependent Claim 29

Dependent claim 29 depends from claim 7 and therefore defines patentable subject matter at least for this reason. However, dependent claim 29 contains additional features such that dependent claim 29 does not stand or fall together with independent claim 7. For example, dependent claim 29 recites that the mobile switching system allocates a channel having the least available bandwidth if the requested bandwidth is smaller than the reference bandwidth and a channel having available bandwidth does exist. The Office Action (on pages 3-4) appears to rely on Davidson's col. 4, lines 12-60, col. 5, lines 1-45 and col. 6, lines 12-65 for these features. However, the cited sections of Davidson do not relate to allocating if a requested bandwidth is

smaller than a reference bandwidth. The other applied references do not teach or suggest these features. Thus, dependent claim 29 defines patentable subject matter at least for these additional reasons.

Independent Claim 8

Independent claim 8 recites that the mobile switching system allocates a channel having the least available bandwidth when a requested bandwidth of the data call is smaller than a prescribed reference bandwidth and the channel having an available bandwidth exists. Independent claim 8 also recites that the mobile switching system allocates a channel having the least occupied bandwidth when the requested bandwidth of the data call is smaller than the prescribed reference bandwidth and the channel having the available bandwidth does not exist. As one non-limiting example, see FIG. 5, steps S47 and S48.

The Office Action appears to rely on Davidson's col. 4, lines 12-60, col. 5, lines 1-45 and col. 6, lines 12-65. However, the cited sections of Davidson do not relate to allocating when a requested bandwidth is smaller than a prescribed bandwidth. The other applied references do not teach or suggest these features. Independent claim 8 defines patentable subject matter at least for this reason.

The Office Action (on pages 4-5) asserts that Davidson teaches allocating a channel having the least occupied bandwidth if the requested bandwidth of the data call is smaller than the prescribed reference bandwidth and the channel having the available bandwidth exists. In particular, the Office Action cites Davidson's col. 4, lines 12-60, col. 5, lines 1-45 and col. 6, lines 12-65. As stated above, applicants respectfully disagree as Davidson does not disclose

“when a requested bandwidth is smaller than a prescribed reference bandwidth.” However, the Office Action does not address the other features that are not taught or suggested by Davidson. Applicants respectfully request clarification of this rejection.

The Office Action appears to reference claim 1 (on page 5, line 2 of the Office Action). Therefore, applicant assumes for purposes of this Appeal Brief that the Office Action is asserting that Ibaraki discloses allocating a channel having a least occupied bandwidth when the requested bandwidth of the data call is smaller than the prescribed reference bandwidth and the channel having the available bandwidth does not exist, as recited in independent claim 8. However, in a similar manner as set forth above, Ibaraki does not teach or suggest allocating a channel when the channel having the available bandwidth does not exist. Accordingly, Ibaraki and Davidson do not teach or suggest that the mobile switching system allocates a channel having the least occupied bandwidth when the requested bandwidth of the data call is smaller than the prescribed reference bandwidth and the channel having the available bandwidth does not exist. The Office Action does not provide a prior art reference teaching these specifically claimed features. Thus, the Office Action fails to make a *prima facie* case of obviousness. For at least the reasons set forth above, independent claim 8 defines patentable subject matter.

Dependent Claim 30

Dependent claim 30 depends from claim 8 and therefore defines patentable subject matter at least for this reason. However, dependent claim 30 contains additional features such that dependent claim 30 does not stand or fall together with independent claim 8. For example, dependent claim 30 recites that the mobile switching system allocates a channel having the least

occupied bandwidth if the requested bandwidth is greater than the reference bandwidth and a channel having available bandwidth does not exist. The Office Action (on page 4) does not appear to specifically address these features. However, for at least similar reasons as set forth above, Davidson and Ibaraki do not teach or suggest all these features of dependent claim 30. Thus, dependent claim 30 defines patentable subject matter at least for these additional reasons.

Dependent Claim 31

Dependent claim 31 depends from claim 8 and therefore defines patentable subject matter at least for this reason. However, claim 31 contains additional features such that dependent claim 31 does not stand or fall together with independent claim 8. For example, dependent claim 31 recites that the mobile switching system allocates a channel having the largest available bandwidth if the requested bandwidth is greater than the reference bandwidth and a channel having available bandwidth does not exist. greater than the reference bandwidth and a channel having available bandwidth does not exist. The Office Action (on page 4) does not appear to specifically address these features. However, for at least similar reasons as set forth above, Davidson and Ibaraki do not teach or suggest all these features of dependent claim 31. Thus, dependent claim 31 defines patentable subject matter at least for these additional reasons.

Independent Claim 14

Independent claim 14 recites determining whether the requested bandwidth is greater than a reference bandwidth, computing a bandwidth occupied by the connected data calls, subtracting the occupied bandwidth from a maximum allowable bandwidth for each H_0 channel,

to determine whether any available bandwidth exists in each H_0 channel. Independent claim 14 also recites allocating an H_0 channel having the least occupied bandwidth if no H_0 channel exists, allocating a H_0 channel having the largest available bandwidth if the requested bandwidth is greater than the reference bandwidth and a H_0 channel having available bandwidth exists, and allocating a H_0 channel having the least available bandwidth if the requested bandwidth is smaller than the reference bandwidth and a H_0 channel having available bandwidth exists. As one non-limiting example, see FIG. 5, steps S47, S54 and S55.

In addressing independent claim 14, the Office Action (at the bottom of page 5) asserts that Davidson discloses determining whether a requested bandwidth is greater than a reference bandwidth and computing a bandwidth occupied by the connected data calls. The Office Action cites Davidson's col. 4, lines 12-16, col. 5, lines 1-45 and col. 6, lines 12-64. However, the Office Action also states that Davidson does not teach subtracting the occupied bandwidth from a maximum allowable bandwidth for each H_0 channel, to determine whether any available bandwidth exists in each H_0 channel, and an H_0 channel having the least occupied bandwidth if no H_0 channel exists. The Office Action also states that Davidson does not teach allocating the H_0 channel having the largest available bandwidth if the requested bandwidth is greater than the reference bandwidth and an H_0 channel having bandwidth exists and allocating a H_0 channel having the least available bandwidth if the requested bandwidth is smaller than the reference bandwidth.

The Office Action then asserts that Ibaraki discloses allocating an H_0 channel having the least occupied bandwidth if no H_0 channel exists. The Office Action cites Ibaraki's col. 3, lines

1-64, col. 11, lines 21-56, col. 12, lines 9-61. However, for at least similar reasons as set forth above, Ibaraki does not teach or suggest these features of independent claim 14 missing from Davidson. Yee also does not teach or suggest these missing features. Accordingly, independent claim 14 defines patentable subject matter at least for this reason.

Dependent Claim 26

Dependent claim 26 depends from claim 14 and therefore defines patentable subject matter at least for this reason. However, dependent claim 26 contains additional features such that dependent claim 26 does not stand or fall together with independent claim 14. For example, dependent claim 26 recites that allocating an H_0 channel having the least occupied bandwidth if no H_0 channel exists includes allocating a H_0 channel having the least occupied bandwidth if the requested bandwidth is greater than the reference bandwidth and an H_0 channel having available bandwidth does not exist. The Office Action (on pages 5-6) does not appear to specifically address these features. However, for at least similar reasons as set forth above, Davidson and Ibaraki do not teach or suggest all these features of dependent claim 26. Thus, dependent claim 26 defines patentable subject matter.

Dependent Claim 27

Dependent claim 27 depends from claim 14 and therefore defines patentable subject matter at least for this reason. However, dependent claim 27 contains additional features such that dependent claim 27 does not stand or fall together with independent claim 14. For example, dependent claim 27 recites that allocating an H_0 channel having the least occupied bandwidth if no H_0 channel exists includes allocating an H_0 channel having the least occupied bandwidth if the

requested bandwidth is smaller than the reference bandwidth and an H_0 channel having available bandwidth does not exist. The Office Action (on pages 5-6) does not appear to specifically address these features. However, for at least similar reasons as set forth above, Davidson and Ibaraki do not teach or suggest all these features of dependent claim 27. Thus, dependent claim 27 defines patentable subject matter at least for these additional reasons.

CLAIMS APPENDIX

The attached Appendix contains a copy of the claims involved in the appeal.

EVIDENCE APPENDIX

Applicant has not provided any evidence with this appeal and therefore an Evidence Appendix is not provided.

RELATED PROCEEDINGS APPENDIX

Applicant is not providing copies of related decisions and therefore a Related Proceeding Appendix is not provided.

CONCLUSION

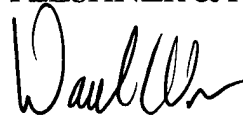
It is respectfully submitted that the above arguments show that each of claims 1-4, 6-10, 14 and 26-31 are patentable over the applied references. Based at least on these reasons, it is respectfully submitted that each of claims 1-4, 6-10, 14 and 26-31 defines patentable subject

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matter. Applicant respectfully requests that the rejection of claims 1-4, 6-10, 14 and 26-31 set forth in the July 27, 2005 Office Action be withdrawn. Applicant further requests that the rejections of claims 1-4, 6-10, 14 and 26-31 be reversed.

Respectfully submitted,
FLESHNER & KIM, LLP

A handwritten signature in black ink, appearing to read 'David C. Oren', written in a cursive style.

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Date: February 24, 2006

CLAIMS APPENDIX

1. A method for allocating channels for radio data calls comprising:
receiving a data call connection request;
determining a traffic attribute of the data call;
determining an occupied bandwidth of each of a plurality of channels of a transmission link occupied by other connected calls; and
dynamically allocating the data call among the plurality of channels based on the traffic attribute and the occupied bandwidth, wherein a mobile switching system subtracts an occupied channel bandwidth from a maximum allowable channel bandwidth to determine whether there is a minimum available bandwidth in each channel, and allocates the channel having the least occupied bandwidth when no channel has the minimum available bandwidth and allocates the channel having the least available bandwidth when a channel exists having the minimum available bandwidth.
2. The method of claim 1, wherein a bandwidth of the data call is determined based on the traffic attribute and the bandwidth occupied by the other connected data calls is determined based on a number of other data calls and prescribed weight values of each of the other data calls.
3. The method of claim 2, wherein the weight value is allocated in a unit form according to a rate of the bandwidth.

4. The method of claim 3, wherein a bandwidth of 13Kbps-based low speed data call comprises 1 unit, a bandwidth of 64Kbps-based middle data call comprises 5 units, and a bandwidth of 128Kbps-based high speed data comprises 10 units.

6. The method of claim 1, wherein the maximum allowable bandwidth is 30 units.

7. A method for allocating channels for radio data calls comprising:
receiving a data call connection request;
determining a traffic attribute of the data call;
determining an occupied bandwidth of each of a plurality of channels of a transmission link occupied by other connected calls; and
dynamically allocating the data call among the plurality of channels based on the traffic attribute and the occupied bandwidth, wherein a mobile switching system allocates a channel having the largest available bandwidth when a requested bandwidth of the data call is greater than a prescribed bandwidth and the channel having an available bandwidth exists and the mobile switching system allocates a channel having the least occupied bandwidth when the requested bandwidth of the data call is greater than the prescribed bandwidth and the channel having the available bandwidth does not exist.

8. A method for allocating channels for radio data calls comprising:
 - receiving a data call connection request;
 - determining a traffic attribute of the data call;
 - determining an occupied bandwidth of each of a plurality of channels of a transmission link occupied by other connected calls; and
 - dynamically allocating the data call among the plurality of channels based on the traffic attribute and the occupied bandwidth, wherein a mobile switching system allocates a channel having the least available bandwidth when a requested bandwidth of the data call is smaller than a prescribed reference bandwidth and the channel having an available bandwidth exists and the mobile switching system allocates a channel having the least occupied bandwidth when the requested bandwidth of the data call is smaller than the prescribed reference bandwidth and the channel having the available bandwidth does not exist.
9. The method of claim 1, wherein the traffic attribute is determined based on a service option.
10. The method of claim 1, wherein the channels are H_0 channels and the transmission link is an E1 link.

14. A channel allocation method for radio data calls, comprising:
 - receiving a data call connection request;
 - allocating an available time slot and an E1 link;
 - determining a requested bandwidth based on a service option of a received data call;
 - defining a weight value of the data call in accordance with the requested bandwidth;
 - dynamically allocating an H_0 channel on the E1 link based on a number of connected data calls occupying each of a plurality of H_0 channels and the weight value of each connected data call, wherein allocating the H_0 channel comprises:
 - determining whether the requested bandwidth is greater than a reference bandwidth;
 - computing a bandwidth occupied by the connected data calls;
 - subtracting the occupied bandwidth from a maximum allowable bandwidth for each H_0 channel, to determine whether any available bandwidth exists in each H_0 channel;
 - allocating an H_0 channel having the least occupied bandwidth if no H_0 channel exists;
 - allocating a H_0 channel having the largest available bandwidth if the requested bandwidth is greater than the reference bandwidth and a H_0 channel having available bandwidth exists; and

allocating a H_0 channel having the least available bandwidth if the requested bandwidth is smaller than the reference bandwidth and a H_0 channel having available bandwidth exists.

26. The method of claim 14, wherein allocating an H_0 channel having the least occupied bandwidth if no H_0 channel exists includes:

allocating a H_0 channel having the least occupied bandwidth if the requested bandwidth is greater than the reference bandwidth and an H_0 channel having available bandwidth does not exist.

27. The method of claim 14, wherein allocating an H_0 channel having the least occupied bandwidth if no H_0 channel exists includes:

allocating an H_0 channel having the least occupied bandwidth if the requested bandwidth is smaller than the reference bandwidth and an H_0 channel having available bandwidth does not exist.

28. The method of claim 7, wherein the mobile switching system allocates a channel having the least occupied bandwidth if the requested bandwidth is smaller than the reference bandwidth and a channel having available bandwidth does not exist.

29. The method of claim 7, wherein the mobile switching system allocates a channel having the least available bandwidth if the requested bandwidth is smaller than the reference bandwidth and a channel having available bandwidth does exist.

30. The method of claim 8, wherein the mobile switching system allocates a channel having the least occupied bandwidth if the requested bandwidth is greater than the reference bandwidth and a channel having available bandwidth does not exist.

31. The method of claim 8, wherein the mobile switching system allocates a channel having the largest available bandwidth if the requested bandwidth is greater than the reference bandwidth and a channel having available bandwidth does not exist.